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ABSTRACT

Discussed is instructional planning for gifted disadvantaged children with emphasis on appropriate teaching strategies and learning activities. Noted are gifted high achievers from disadvantaged backgrounds such as Thomas Bradley, the mayor of Los Angeles. Possible organizational patterns listed include team teaching, open education, and extended school days. Stressed for programing is the development of both basic skills and higher divergent thinking skills. Strategies are suggested for the development of thinking skills such as elaborative thinking, fluent thinking, flexible thinking, and originality. Learning activities described include a mathematics unit dealing with percentage, a study of journeys, a unit on colors, career education, and a simulation game on ecology. (DB)

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INSTRUCTIONAL PLANNING FOR GIFTED DISADVANTAGED CHILDREN

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Talents of gifted disadvantaged children are not systematically developed in America today. This is a loss both for gifted individuals and for the country. Huge benefits flow to society from the productivity of a single creative mind.

More and more countries are systematically combing their student populations for talent and assuring its full development. To maintain a competitive edge, America must make a similar effort and it must embrace all children and youth to be effective.

Increased attention is being directed toward gifted disadvantaged children. Hopefully, a steady expansion of quality programs will result.

INTRODUCTION

It is sad when a "pint" is expected to yield a "quart" and fails to do so but it is a tragic loss to society when a "quart" produces only a "pint" or much less for lack of proper societal effort and programs.

Historical and current data which give evidence of the great contributions which have been made to society by men and women from culturally different or economically deprived backgrounds reveal that these men and women were singularly strong and determined in spite of overwhelming odds. There were only a chosen few who, through the generosity of philanthropists, had an opportunity to develop their potential to the highest in schools of high prestige.

These outstanding people would be classified according to today's terminology as the "disadvantaged gifted." There were many other boys and girls who like their well-known peers could have contributed greatly to society if they had: (1) had the stamina to withstand the unequal and unfair societal prejudices or (2) had sponsors who provided the necessary contacts and monies for extensive training.

Andrew Jackson Beard, a slave near Mt. Pinson in Jefferson County, Alabama, never learned to read and write, yet he invented the "Jenny Coupler" which automatically couples railroad cars when they bump together. Beard's contribution saved the lives of many men who had to lock the coupling device by hand. Garrett Morgan invented the first automatic stop signal, and filed 150 electrical patents. Daniel Williams performed the first successful heart operation, Jan Melitzer developed the shoe last, Madam C. J. Walker was a cosmetic developer and manufacturer. These and many more less well-known gifted people are members of the largest minority or disadvantaged group in the U.S.A.—the black American. This group of gifted people bear evidence of latent talent which emerged in spite of the social and economic characteristics of the period of their lives from the middle 19th century to the early 20th century. Few schools were open to blacks during this period and even fewer colleges.

Achievements in this vein continue today. George Carruthers, a black scientist, won the 1973 NASA Exceptional Scientific Achievement Medal for his development of the lunar observatory installed on the moon by Apollo 16 astronauts. Thomas Bradley, the son of transplanted Texas sharecroppers, is the new Mayor of Los Angeles. These achievements have been recorded despite the fact that systematic programs for talent development of gifted disadvantaged children are still more an exception than a rule. Indeed, Bradley, like many gifted blacks, was advised by counselors to forget about planning for college. He ignored this advice and went on to graduate from the University of California.

It is surely America's loss that brain power in a rather large segment of the population is not systematically developed. This is not the case in countries from which intensive economic competition is being received and for which a favorable Hertz-Avis trading position is being developed in an increasing number of areas.

In addition to inadequate school programs, the use of inaccurate tests causes talent to be stifled or destroyed in minority communities when it could have been used to build our society. The most damning of the instruments has been the use of achievement and IQ tests to determine the presence or lack of talent. This paper will not concern itself

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with identification but I personally feel that identification and prescription should go hand in hand with a circular feedback system in gifted programs. An effective system places the emphasis on *prescription wherein identification instruments become tools for indicating unusual strengths and talents instead of measuring what has been learned.* The Torrance Tests of Creative Thinking (Torrance, 1966), for example, reveal a child's ability in the area of divergent thinking. It gives us the child's strengths or weaknesses in the ability to be flexible, fluent, and original in the manipulation of verbal and figural symbols. The Alpha Biographical Inventory (Institute of Behavioral Research in Creativity, 1968) identifies the talents of individuals which are important for academic pursuits and a variety of other work situations, and Mary Meeker's (1969) use of Guilford's (1967) structure of the intellect to point out areas of strengths and weaknesses, are a few examples of identification methods which aid in planning and provisioning. All reveal hidden talents of disadvantaged children which IQ and achievement are unable to uncover.

Philosophically, I feel that all human beings should have an equal opportunity to develop their innate abilities to the fullest. Believing this I would then say that those children who are talented should experience curricula which are differentiated and distinctly designed to meet the needs of these special talents. Heterogeneous grouping is highly desirable, yet homogeneous grouping should be provided sometime during the day or week in order for these students to benefit from the challenge of like minds. Such a curriculum might be referred to as varied or individualized. Whatever, it is characterized by four distinct features: provisioning, programming, teaching strategies, and learning activities. These are discussed in turn below.

PROVISIONING

Provisioning includes the organizational pattern most conducive to the teaching of children with unusual talents. Materials provide flexibility and variety in activities required.

There are many possible organizational patterns which will develop the talents of disadvantaged children. Some, along with their strengths and weaknesses, are listed below:

1. Team teaching which provides multiple talents and specialties in the classroom.
2. Open education as it refers to structure and educational ideology, provides the student an opportunity to develop independence and self-motivation. It also provides the student with an environment which provides for different learning styles and a fast pace.
3. Resource centers in central locations for school district or in each school provide needed materials.
4. Mobile resource centers are an option in rural areas.
5. In– and outness in the school day. This is a design which allows gifted students to work for part of the day with specialists in the community or in neighboring colleges.
6. Extended school days. Special after-school activities including Saturday activities provide time for projects.
7. International School Rooms–children and teachers use special aviation and other transportation rates for extended class rooms in Canada, Mexico, England, etc. Money is surely a deterrent here.

Tools are important in any organization. Some are listed below:

1. Books in plentiful supply provide for various interest and ability levels. Reference books should be easily accessible. The school librarian or local librarian can assist in acquiring an adequate supply of books. Each child can use his library card to select books which will be placed on the school shelf for the period of the loan and made available to students during this time.
2. Art supplies–basic materials such as crayons, paints, brushes and paper. Discarded materials can be used to an advantage.
3. Use of cultural artifacts. Children should be encouraged to use familiar objects to provide bases for discussion or exploration.

PROGRAMMING

Programming or instructional development for gifted disadvantaged children includes the usual components of curriculum development: (1) objectives (what are we doing?); (2) learning activities (how are we doing it?); and (3) evaluation (how are we going to know we succeeded?).

The following writings are valuable as a frame of reference: (1) Piaget's (1960) developmental theories; (2) Guilford's (1967) structure of the intellect; (3) Mary Meeker's (1969) interpretation of the structure and suggestions for its application in class; (4) Bloom (1962) and Krathwohl's (1967) taxonomies of educational objectives; (5) the hierarchical arrangement of skills listed by Ausubel (1968) and Phenix (1964); (6) Ward (1961), Gowan (1964) and others in gifted education; (7) Torrance (1962), Renzulli (1972) and Williams (1969) for creativity; and (8) Toynbee (1964) and others in education of disadvantaged.

The gifted disadvantaged child has a capacity for abstract, divergent thinking along the higher levels of the various hierarchical arrangements which is outstandingly different from and greater than that of the average child; therefore, planning in these categories, that is, objectives and learning activities, should reflect, over a period of time, emphasis in these areas. Said differently: we want to make sure we stretch these young minds.

As a precautionary note, however, I'd like to add three things: (1) capability for operating at higher levels of the thought processes does not preclude the lack of need for development in the lower levels. It is only that these children will need much less time to develop the lower level thought processes, i.e., memory, comprehension, etc.; (2) disadvantaged gifted children often exhibit their innate abilities in ways which are not always standard. It is important that we understand the intellectual skills being used in the exhibited behavior, and the cultural context of its origin. We then build on those areas of strength and develop those areas of weakness. For instance, a child might be able to recall numerical groupings because he has had practice in his home or community activities. He may be strong in figural symbols but weak in verbal interpretations.

This student then should be directed to develop horizontally those special skills he possessed at his "entry level" while being directed vertically on those skills in which he was weak; and (3) the gifted disadvantaged child will need more initial support in his new opportunities to explore.

A fine program with which I once worked was designed in three phases. Phase 1 developed basic skills and was more structured, phase 2 increased the planning freedom of the students, and phase 3 extended this freedom and increased and encouraged pursuit of individual interests in and out of school.

TEACHING STRATEGIES

Teaching strategies, of course, go hand and hand with the teaching models which I referred to earlier and are perhaps more important. The following points are worthwhile for teachers of all children but *especially* important for teachers of the gifted disadvantaged.

1. There should be an emphasis on learning patterns or process in the on-going activities. Questioning which involves memory, translation, interpretation, application, analysis, synthesis and evaluation is central in allowing young minds to roam. Sanders' *Classroom Questions: What Kinds?* (New York: Harper & Row, 1966) is a good source for teachers to read in efforts to challenge their young charges.
2. Learner-participant teachers are effective with these children. Discussion and exploration of ideas involve teachers in the learning process itself in these classrooms.
3. Simulation games, research through films, interviews, and computer-assisted instruction are just a few of the options for learning a good strategist might employ.
4. Emphasis on creative thinking is vitally important.

It is desirable to consciously and deliberately engage the students in the creative thinking processes at the same time that they are engaged in their pursuit of knowledge and skills. The following list with its suggested "cueing strategies" doesn't explore the full range of creative processes, but the suggestions will have particular application for classroom use.* These strategies are:

a. **Elaborative Thinking** – this involves embellishing, or refining an idea; adding new and necessary details for purposes of communicating a new idea.
   (Say to your students:)
   When you describe it, leave nothing to the imagination.
   Be as descriptive as possible.
   Expand and detail the changes you would make.

b. **Fluent Thinking** – production of quantity of ideas, a free flow of ideas for the purpose of producing the most relevant ideas in a given time.
   (Say to your students:)
   Produce as many ideas as you can for . . .
   Stretch and expand your thinking so that you may list many things that . . .
   List all of the consequences that the problem suggests.

c. **Flexible Thinking** – variety of kinds of ideas, a number of different approaches, thinking branches off into contrasting classes, shifts categories of thought and detours the direction of thought.
   (Pupils can be asked to:)
   Give different kinds of reasons for . . .
   Produce contrasting hypotheses for . . .
   Give the many different meanings of the word . . .
   Produce a variety of ideas for . . .

d. **Willingness to Take Risks** – setting greater goals for greater gains. Involved here is speculation, supposition, presumption, and venturing to guess. Risk-takers who enjoy participation in activities involving chance and adventure are well served here.
   (Set them off by directing:)
   Prepare your plan and go ahead on your own.
   Speculate on the outcome of . . .
   Now that we have this information . . ., what is your prediction?

e. **Preference for Complexity** – ability to handle involved details and to cope with knotty problems, inclination to toy with intricate ideas and to dig into difficult problems or solutions.
   (Use cues of this nature:)
   What are some of the things that people do now that in all probability will have to be done differently fifty years from now?
   What reasons can you give for the fact that none of the early exploration in America came from Asia eastward?
   What changes might you expect if the Mississippi River ran from east to west?

f. **Curiosity** – exploratory behavior which could be directed toward acquiring information; the explorer thrives on novel routes or choices, uses all senses to investigate, test, inquire, and confirm.
   (Use triggering techniques:)
   Are any clues given?
   How would you feel if you knew that . . .
   Formulate some questions without using the words who, what, where, when, or why.

g. **Originality** – unusual or unanticipated response; production away from the usual or obvious; novel, unique, but relevant fabrication of clever but useful ideas.
   (Challenge pupils to:)
   Think of a way or an idea that no one else will think of to . . .
   After reading the news story, make up your own headline.

*For further help in *Cueing Strategies for Teaching Creativity* write to: Frank E. Williams, Professor, Portland State College, Portland, Oregon.

LEARNING ACTIVITIES

Many people have equated success in providing for gifted youngsters with more lessons, harder lessons or even the privilege to do extra activities.

This is an erroneous equation because I have found that activities not designed with a specific goal which included

considerations of all the foregoing concepts and/or theories were meaningless.

The learning activities described below have been either used by me in a class of gifted disadvantaged, field tested by groups of disadvantaged, or borrowed from experience of others. Once the idea is developed, teachers can go on from there. The activities were used in a mathematics unit. We were dealing with percentage. An outline of objectives and activities is included.

Objectives:

1. Students will learn how percentage can be used to compute discount, commission, profit, and loss as shown by their ability to solve practical problems which include these elements. Students should have 100 percent accuracy on samples of each use of percent.
2. Students will develop an awareness of the practical uses of percentage as shown by their ability to simulate a practical situation using percentages correctly.

Isolated Objectives: (Objectives which are realized in addition to major objectives but are not crucial to the basic concept being taught.) It is important to note here that in this lesson, the isolated objectives are crucial for disadvantaged children.

1. Students will become aware of the economic pitfalls of overspending as shown by their attempts to negotiate a good buy.
2. Students will become aware of propaganda in advertisement as shown by their avoidance of expensive purchases.

Intellectual skills to be stressed:

Bloom	(Evaluation
&	(Comprehension
Krathwohl	(Synthesis
	(Awareness
	(Analysis
Guilford	(Divergent production
	(Convergent production
Piaget	(Formal operations

Teaching Model: The Inductive Model which is drawn from conceptions of mental processes and general theory-building.

Scenario: The children and teacher have planned a shopping mall for the classroom. The mall has "stores" (formed with chairs and poster board) which are typical of a shopping mall—clothing store, grocery store, bank, E-Z Loan Company, employment agency, auto dealer, realtor. Each agency had to use percent in its charges.

[In order to provide situations which would allow some of the objectives to be attained, I suggested some of the inclusions while the students selected the others.]

The students have divided themselves into groups and used pictures, miniature replicas or actual articles for their "stores." The bank is stocked with "money" (Monopoly version). The employment agency has designed questionnaires and personality tests for job seekers and listed jobs along with salaries. The bank has posted its interest rates. The E-Z Loan Company has its gimmick ad visible. All of the "businesses" are colorfully decorated.

Format of Procedure: Each student must keep a record of his transactions including computations of his transactions together with computations of percentage. His income and expenditures are to be reconciled. Each person must have at the end of the experiment a minimum of three examples of instances where a transaction is made with the use of percent. The agency has to keep a record of sales. Some team members "shop" while other "tend" the agency until all have a chance to participate both as a dealer and as customer.

Evaluation of Unit: Evaluation is based on (1) accomplishment of stated objectives, (2) incidental learnings gained and (3) enthusiasm of students. The incidental learnings vary in different situations. In my class, the bank ran out of money and had to close. I brought in the historical reference of the Roosevelt era when banks were closed. Many children had their "possessions" taken due to lack of payment. The "discoveries" were numerous and incidental teaching opportunities were unlimited. The enthusiasm was so great I had to extend the shopping mall for ten more years (five hours). Formal tests which were given to all children on that grade level showed an exceptionally clear understanding of percent and its uses.

The following is a second example which uses a theme which centers on a multidisciplinary approach to learning.

Theme: Journeys

Subject area: Multidisciplinary

Grade level: All (sophistication of planning varies with age and/or grade level)

Objectives: (General) Students will develop an awareness of the importance of journeys of all types as shown by their participation and selection of subsequent study groups on journeys.

Note: Transitional (means) objectives can be developed in each study group.

Intellectual skills and/or operation to be stressed:

Guilford	(Divergent thinking
	(Convergent thinking
	(Classification
	(Transforming
Bloom	(Synthesis
&	(Analysis
Krathwohl	(Application
Piaget	(All operations

Teaching Model: Group investigation which is a democratic process. [As I moved further into the lesson the democratic model was supplemented by the inductive model.]

Procedure: The children are asked to think about and help in listing all kinds of journeys (this activity calls for fluency in thought because the children must think further than the most commonly known journeys.) A common list might be:

A journey or trip (be sure the meaning of journey is understood) to the store, to Grandma's, to another city, etc. The children are asked to think of journeys that animals might take. Also, pollen, diseases, blood, clouds, birds, etc. After several lists have been developed, children are divided into groups according to interest. These journeys are researched in great detail. The units can be extended as far as is needed for each situation. An example of one group is the journey of the blood. Children can study the path of the blood, job of the heart, veins, arteries, lungs, cellular structure of blood, blood transfusion, hemophilia, etc. Models can be made, pictures, outside resource people can be used and so on.

This lesson lends itself to concept and skill attainment. Students discover a need for skills they don't now have and this is the time the basic rudiments can be taught. Caution: Teachers can easily destroy the spontaneity of the activity by becoming too involved in teaching the skill.

Evaluation: General evaluation of cognitive learnings might vary with each group. An assessment of the student's awareness of journeys can be evident in his selection of groups.

A unit on colors can be pursued in much the same way as those described above.

Initiating question: What would we miss in the world if everything was either black or white in appearance?

As I mentioned earlier, Mary Meeker has developed activities which could be used by teachers to develop various areas of the intellect. For the gifted disadvantaged, the area of semantics might be weak. Exercises which would develop a child's ability to judge applicability of class properties or ability to make choices among relationships are as follows:

1. Use a game of classifying objects. Prepare cards or write on the board for classes of things, i.e. metal, plant, animal. Children can pull words or smaller cards from a bag and match the word with the class.
2. Use analogies in class. Begin with simple ones like—when it is cold and snowing, mittens are to hands as what are to feet? Children can then make up analogies which can be related in similar endings, length of words, etc.

One can go on and on in this vein. In a unit on careers, I provided a list of job titles along with a description of each. Children selected a title in their interest area and performed the job as a service to the class. Some of the jobs were as follows:

1. Cartographer – Map drawing and study of maps. Reports were given to the class on how these are drawn. For disadvantaged children, motivation would come through adventure stories of seafaring men who needed to read maps to find new lands, spacemen who charted maps for outer space, the necessity for map reading skills when we travel from one city to the other.
2. Lexicographer – Students who selected this task developed new words for the class, researched origins of words and made a class dictionary following the guidelines of the regular dictionary. Self concept can be developed through encouraging a search for meanings or origins of some well known or frequently used slangs and/or dialects.
3. Philatelist – Students collected stamps or pictures of stamps and discussed their meanings. These students also collected picture post cards from various towns and countries.
4. Histographer – These children selected the city, region or country of their choice and developed details for historical reference.

Independent study is a popular method of providing opportunities for primary and middle school children to forge ahead. Some projects completed by talented students are fascinating. Students have delved into the workings of tornados replete with wind tunnel apparatus. They have compiled histories of the scientific development of household appliances and charted the migration of birds. Still others have made studies of communication systems of animals.

Astronomy holds a special fascination, it seems, and budding Galileos have built their own telescopes, investigated optical illusions and built demonstration models of eclipses. Work around planetariums has been afforded gifted youngsters to their benefit.

Young mathematicians have plotted historical progressions of size and speed of modern vehicles, studied school costs and sources of income and completed demographic studies from census data. Some have delved into the secrets of the stock market. A few with extraordinary derring–do have looked into concepts of probability and number theory. A favorite past-time is gnawing at the carcasses of famous historical problems and paradoxes.

Language arts devotees have studied advertising for key phrases and psychological impact, written alternative endings to stories and studied the impact of the life and times of authors on their output of literature during the period involved. Studies of mythology are popular with the young wordsmiths as are Great Book Clubs and sheer output of poems, stories, essays and other creative offerings.

Young social scientists have studied holidays and noted original sources, studied women who shaped historical events and traced the paths of food items from planting and harvest to the table. Historical and contemporary juxtaposition of forms of societal organization and control are popular as are cultural and psychological studies of winners and losers in bids for high office. As expected, ecological studies rank high because of current emphasis and the wedding of natural and social science

becomes more complete here than at any point as youngsters seek to conceptualize a science that serves and not rules. The performing arts are well represented in programs for gifted children. Musicians with unusual talent find a chair in local college orchestras and small groups. Athletes are perhaps the most looked-after group. Summer camps, informal pick-up games and observation of practice sessions at the college develop skills and insights. Local children with dramatics ability find a role in college productions requiring children and youth. Modern dance and ballet groups are springing up.

It can safely be said that there are as many program characteristics as there are programs. Divergent thinking is the order of the day as imaginations of excellent minds soar in the consideration of the possible.

Finally, a simulation game on ecology can result in high interest and effective learning. It begins by having students write to the Department of Interior for information on the latest legislative proposals and acts by Congress.

SIMULATION GAME

PASS THE ECO-BILL*

Objectives for Students	To develop ability to articulate cause and effect of bills being passed; to develop ability to think on their feet; to develop divergent thinking and fluency of ideas; to develop an awareness of the interrelation of politics with our study of ecology.
Physical Format	Classroom set with seats for "Senators" facing the "legislative body." Bills written out to be read to the class.
Game Moment	The game begins when the chairman calls the legislative body together and raps for order.
Aim	The aim is to pass a bill for ecology by receiving the highest number of votes from the legislative body.
Players	Two teams of 2 or 3 persons each and the legislative body which is made up of those not on the two teams.
Procedure	The teams will select a color (red or blue). The starting team is determined by the color of paper drawn from the hat or box by someone other than the team members. Bills to be presented are selected by the members from the groups of bills which were made up by the class. Each team has had time to study the bills and discuss their strategy. Each team member is given a list of the bills to be presented in order to strengthen the opposition or to insure its passage. A bill is presented by the starting team with five minutes allowed for presentation. Presentations should include what persons are affected financially and also how this bill affects the environment. The opposing team must challenge the bill on all points. This exchange period should not go more than 10 minutes with the exchange going back and forth between the teams. Each team is given points 1-5 for its defense of the bill it is presenting. A total score of 3 times the members of the body or more, means that a bill has passed. The next team presents its bill and so on until time is called on the game. Each team must have an equal number of times up before a winner can be declared. The winners will be the team with the largest number of bills passed.

*See Lear, J. (Ed.). "Environment and the Quality of Life," *Saturday Review,* March 7, 1970, for a description of the game. Reprints of the article for class use can be obtained from Saturday Review, Inc., 380 Madison Ave., New York, N.Y. 10017.

This lesson on political science and the accompanying game *Pass the Eco-Bill* are part of a copyrighted document. As author of the papers, I give permission for its use under non-commercial circumstances with proper credit. Baldwin, Alexinia. *Ecology, the Web of Life. A Process Oriented Curriculum for High Potential Students.* Copyright 1971.

RECAPITULATION

The basic thrust of programs for gifted disadvantaged children is the same as the thrust of programs for gifted advantaged children. Resources of school and community are applied as effectively as possible in the service of clear goals of developing children's talents as fully and as effectively as possible. Programs of experiences are organized. Creative teaching strategies are employed. Minds are encouraged to expand. Unusual talents are not left under the bushel.

Special attention and techniques in this context enable gifted disadvantaged potential to flower. Tests of creativity replace the linearity of IQ and achievement measures. The cultural milieu is studied carefully to make the simulations and experiences meaningful. Community resources and individuals are mined more vigorously to assure both relevance and role models. Career education is pressed into service.

Teaching strategies for both the gifted advantaged and disadvantaged assume a high priority. A huge panoply of intellectual functions must be available in a context of developmental maturation. Systematic programming of needed mind-bending experiences, both formal and informal, is truly an art with teachers of gifted children. Clear taxonomies a la Guilford and Piaget and clever programming have a priority here. In the performing arts the challenge of models and the influence of masters hold sway. In science and the humanities, teachers who are able to actively explore *with* the children are important.

When I worked with gifted disadvantaged children in the classroom, I said to myself each day as I observed those active, inquiring youngsters, "I have here the potential discoverer of a cure for cancer, designer of a world peace strategy, discoverer of great sources for energy, national leader politically and socially; therefore, I must provide the atmosphere and give the direction which will cause a 'quart'

to give its full measure." So I find myself reflecting on these immortal lines from Thomas Gray's (1868) *Elegy Written in the Country Churchyard:*

"Full many a gem of purest ray serene
The dark unfathomed caves of ocean bear;
Full many a flower is born to blush unseen,
And waste its sweetness on the desert air." (p. 170)

Hopefully, the future will see a more thorough development of talents of gifted disadvantaged children. It is morally imperative to do so and our country will surely benefit in many ways. Let us hope this comes about.

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